

REMARKS

Claim 1-11 and 13-31 are pending. No new matter has been added by way of the present amendment. For instance, claim 1 has been amended to clarify the present invention as supported by originally filed claims 1 and 12 as well as the present specification at page 5, lines 16-24, page 8, line 27, page 16, line 29 to page 17, line 7, page 18, line 21 to page 19, line 8 as well as Figure 7. The language of claims 2 and 3 is supported by the present specification at page 9, lines 17-20. The preambles of each claim have been amended and certain preferred embodiments have been removed from claims and placed into suitable dependent claims. For instance, the subject matter of newly added claims 21-25 is supported by claims 1 and 14. Newly added claim 26 is supported by originally filed claim 1. Newly added claim 27 is supported by claim 15 and newly added claims 28-30 are supported by claim 16. Lastly, newly added claim 31 is supported by originally filed claims 1 and 3 as well as the present specification at page 5, lines 16-24, page 8, line 27, page 16, line 29 to page 17, line 7, page 18, line 21 to page 19, line 8 and Figure 7. Accordingly, no new matter has been added.

In view of the following remarks, Applicants respectfully request that the Examiner withdraw all rejections and allow the currently pending claims.

Issues under 35 U.S.C. § 112, second paragraph

The Examiner has rejected claims 1-20 under 35 U.S.C. § 112, second paragraph for the reasons recited at page 2 of the outstanding Office Action. Applicants respectfully traverse these rejections.

First, the Examiner has rejected claim 1 asserting that the recitation of "the cell" in line 2 has insufficient antecedent basis. Applicants traverse and submit that this issue has been dealt with by amending "the cell" to recite "a cell."

Second, the Examiner has rejected claims 12 and 13 for the recitation of "the fluorescence" in line 2. The Examiner asserts that there is insufficient antecedent support for this language. Applicants traverse and submit that claim 12 has been cancelled and claim 13 has been amended to refer to the "luminophore" of claim 1, upon which it depends. Correct antecedent basis exists for this claim term.

Third, the Examiner has rejected claims 14 and 15 for reciting "such as" since it is not clear whether the limitations following this language are part of the claimed invention. Applicants traverse and submit that this language has been removed from the claims and placed into suitable dependent claims.

Fourth and lastly, the Examiner has rejected claim 20 asserting that without a transitional phrase, it is indefinite since it is allegedly unknown what constitutes the body of the claim. Applicants traverse and submit that no transitional

phrase is required to make a claim definite. Claim 20 simply relates to a "data set" which is obtained by the method of claim 1.

In summary, Applicants submit that the present claims fully satisfy the requirements of 35 U.S.C. § 112, second paragraph. Reconsideration and withdrawal of these rejections are therefore requested.

Issues under 35 U.S.C. § 102(e)

The Examiner has rejected claims 1-11 and 15-20 under 35 U.S.C. § 102(e) as being anticipated by Zarling et al., USP 5,674,698 (hereinafter referred to as Zarling '698). Applicants respectfully traverse this rejection.

Zarling '698 relates to a particular use of organic dyes. For instance, Zarling '698 discloses the use of organic dyes to detect an analyte in a sample by contacting the sample with a labelled binding component. However, this is unrelated to the presently claimed subject matter. That is, the present claims relate a method of detecting translocation of a component fused to a luminophore, wherein the luminophore is a polypeptide encoded by and expressed from a nucleotide sequence.

Zarling '698 fails to suggest or disclose a luminophore, which is a polypeptide encoded by and expressed from a nucleic acid sequence. In fact, Zarling '698 does not even relate to the translocation of such a polypeptide. Accordingly, no anticipation exists based upon Zarling '698. Reconsideration and

withdrawal of this rejection are requested.

The Examiner has also rejected claims 1-11, 15-17 and 20 under 35 U.S.C. §102(e) as being anticipated by Baer, USP 6,259,104 (hereinafter referred to as Baer '104). Applicants respectfully traverse this rejection.

Baer '104 discloses an improvement of laser scanning fluorescence microscopy (see column 2, lines 57-58 of Baer '104). However, Baer '104 fails to suggest or disclose detecting translocation within the cell. Baer '104 also fails to suggest or disclose a luminophore being a polypeptide encoded by and expressed from a nucleic acid sequence as presently claimed.

Further the Examiner has specifically stated at page 10, lines 1-2 in the outstanding Office Action, that Baer '104 does not specifically disclose use of the Baer invention in fluorescence microscopy as claimed by Applicant. For this reason alone, as well as the above reasons, no anticipation based upon Baer '104 exists. Reconsideration and withdrawal of this rejection are requested.

Issues under 35 U.S.C. § 103(a)

The Examiner has rejected claims 18 and 19 under 35 U.S.C. § 103(a) as being obvious over Baer '104 in view of Bawendi et al, USP 6,306,610 (hereinafter referred to as Bawendi '610).

Baer '104 discloses an improvement of laser scanning fluorescence microscopy (see column 2, lines 57-58 of Baer '104). However, Baer '104 fails to suggest or disclose detecting

translocation within the cell. Baer '104 also fails to suggest or disclose a luminophore being a polypeptide encoded by and expressed from a nucleic acid sequence as claimed.

Bawendi '610 discloses the use of antibodies as well as localization; however, Applicants are not claiming localization. Rather, the present claims relate to methods for detecting translocation of components fused to a luminophore. This is quite distinct from the combined disclosures of Baer '104 and Bawendi '610. Accordingly, the Examiner has failed to present a valid *prima facie* case of obviousness. Reconsideration and withdrawal of this rejection are requested.

The Examiner has rejected claims 12-14 under 35 U.S.C. § 103(a) as being obvious over Baer '104 in view of Cormack et al., USP 6,090,919 (hereinafter referred to as Cormack '919).

Baer '104 discloses an improvement of laser scanning fluorescence microscopy (see column 2, lines 57-58 of Baer '104). However, Baer '104 fails to suggest or disclose detecting translocation within the cell. Baer '104 also fails to suggest or disclose a luminophore being a polypeptide encoded by and expressed from a nucleic acid sequence as claimed.

Cormack '919 discloses fluorescence labeling for *in vivo* studies. However, even if Cormack '919 were to be used in the Baer '104 invention, Cormack '919 would not have been motivated to investigate translocation events. The nature of the present claims is important. That is, the present claims relate to detecting a change in localization (translocation). This

detection is not performed by imaging, for instance by taking pictures of the cells and the luminescence and the use of advanced mathematical algorithms to reduce the image to one or more numbers. Rather, the present invention performs the detection of the change in localization (translocation) by measuring a change in light intensity. An instrument designed for the measurement of changes in luminescence intensity measures this.

The fact that such advanced measurements such as changes in localization of proteins within living cells can be performed by this simple intensity measurement is a complete surprise. Those of skill in the art are given no motivation by the prior art to accomplish such a task. Accordingly, there exists no *prima facie* case of obviousness. Reconsideration and withdrawal of this rejection are requested.

The Examiner has also rejected claims 12-14 under 35 U.S.C. § 103(a) as being obvious over Zarling '698 in view of Cormack '919. Applicants respectfully traverse this rejection.

Zarling '698 fails to suggest or disclose a luminophore, which is a polypeptide encoded by and expressed from a nucleotide sequence. Zarling '698 further fails to suggest or disclose the translocation of such a polypeptide. Cormack '919 fails to cure this deficiency. In fact, as explained above, even if Cormack '919 were to be used in the Zarling '698 invention, Cormack '919 would not have been motivated to look at translocation events.

The present claims relate to detecting a change in

localization (translocation). This detection is not performed by imaging coupled with the use of advanced mathematical algorithms to reduce the image to one or more numbers. Rather, according to the present claims, the detection of the change in localization (translocation) is performed by measuring as a change in light intensity measured by an instrument designed for the measurement of changes in luminescence intensity.

Such subject matter is neither disclosed nor suggested by the cited art. Accordingly, the Examiner has failed to present a valid *prima facie* case of obviousness. Reconsideration and withdrawal of this rejection is therefore requested.

In summary, Applicants submit that the present claims define subject matter, which is allowable over the cited art. The Examiner is therefore requested to withdraw all rejections and allow the currently pending claims.

Request for Initialed Form PTO-1449

On April 12, 2001, Applicants filed an Information Disclosure Statement (IDS) with a Form PTO-1449 attached thereto. However, the Examiner has not yet returned an initialed version of this Form PTO-1449 indicating that the references cited thereon have been considered. The Examiner is therefore requested to return an initialed version of the April 12, 2001 Form PTO-1449 indicating that the cited references have been properly considered.

If the Examiner has any questions or comments, please do not

Application No: 09/807,345

hesitate to contact Craig A. McRobbie, Reg. No. 42,874, at the offices of Birch, Stewart, Kolasch & Birch, LLP at the number listed below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By  #1/2.874
for Leonard R. Svensson, #30,330

LRS/CAM/mmi
3759-0111P

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000